



WASTE CHEMICAL DISPOSAL GUIDANCE FOR SCHOOLS

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This document has been prepared to assist those responsible for administering or improving waste management programs at local schools throughout Kansas. This document provides information regarding non-hazardous and hazardous waste, but does not prescribe in detail all required factors and considerations for this management.

The Kansas Department of Health and Environment (KDHE) does not make any guarantee or assume any liability with respect to the use of any information or recommendations contained in this document. It is recommended that the users of this document requiring additional information or advice consult KDHE at (785) 296-1600 or a hazardous waste disposal contractor.

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I. PURPOSE

The public school system, primarily high schools, may generate chemical wastes from their science laboratories. It is common for science teachers to save and accumulate quantities of chemicals thinking that they will some day use them. As science teachers come and go within the school system, the accumulation of used and unused chemicals continues to grow until the point is reached where someone decides that they need the storage space. Then the question is raised, “What can we do with these chemicals?”

In order to help school administrators, science teachers, custodians, or whoever else is given the task of disposing of unwanted chemicals, the Bureau of Waste Management (BWM) has developed this guidance document. This guidance will help school officials decide which of their waste laboratory chemicals are hazardous waste; which are non-hazardous waste and may be disposed at the local permitted sanitary landfill; and which may be neutralized and/or flushed down the sanitary sewer (with city approval).

Once the chemical storage area has been cleaned out and inventoried, it is important to properly maintain the storage area to avoid future accumulations of hazardous and unwanted chemicals. One way to do this is to develop guidelines for chemical purchases. Limiting chemical quantities and hazard-levels will almost certainly help minimize waste and provide a healthy and safe environment for students, faculty, and staff. When developing purchasing procedures, schools should consider the following:

1) It is important for schools to understand what they have in stock before making any new purchases. Inventories are an ideal way to help make this assessment. A purchasing procedure could require conducting an inventory prior to making new purchases.

2) Surplus chemicals are a major waste stream for schools; faculty and staff often buy more chemicals than are needed. According to the American Chemical Society, unused chemicals can constitute as much as 40 percent of the hazardous waste generated by laboratories. Purchasing procedures that place a limit on the quantity of chemicals allowed to be purchased will minimize unnecessary waste.

3) Many laboratory chemicals are not considered “hazardous” and therefore do not need to be disposed as hazardous waste. Purchasing procedures should discourage the use of “hazardous”



chemicals as well as chemicals that pose a significant danger to human health and safety. Alternative lab exercises do exist that use a minimum quantity of the least hazardous, most easily disposable agents. Switching to microscale chemistry, green chemistry, demonstration labs, video instruction or other forms of non-hazardous or less-hazardous curricula will dramatically reduce hazardous waste generation in the laboratory and save money in purchase and disposal costs.

4) Smaller packages are preferable:

- They are emptied faster, and there is less chance for decomposition of reactive compounds.
- Breakage is less in smaller packages.
- Less valuable storage space is required.
- Risk of accidents and exposure to hazardous materials is less when handling small containers. Larger containers usually require that the material is transferred to small containers.

II. IDENTIFY WASTES

The first step in the process of disposing of an accumulation of waste chemicals is to identify the chemicals and the quantity needing disposal. In some cases, this is a tedious task and may take a large amount of time to complete the inventory. Caution should be used at all times in the handling of these bottles or containers and sufficient personal protective equipment should be used. During this procedure, the school staff should keep a lookout for any chemicals that have crystallized. **If crystallized chemicals are found, they should not be moved.** Such crystals can be shock-sensitive and explode if the container is not handled with extreme care. Local officials should be contacted and arrangements made for a disposal contractor to come in to remove the crystallized chemicals.

Each chemical on the inventory list should be evaluated to determine if it is a hazardous waste. The quantity of chemicals which meet the definition of a hazardous waste will determine the hazardous waste generator status as defined below and the ultimate disposal method for the waste.

Waste chemicals that are identified as solid wastes, not hazardous wastes, may be disposed of at a local landfill. In order to dispose of these wastes at the local landfill, the school will need to first obtain a “special waste disposal authorization” from the Kansas Department of Health and Environment, Bureau of Waste Management (BWM). The school should contact BWM at (785) 296-1120 to make these arrangements. The waste may need to be solidified or packaged properly before being taken to the landfill. The landfill will give the final approval before accepting the waste for disposal.

III. GENERATOR STATUS

Some of these waste chemicals may meet the definition of a hazardous waste and the hazardous waste regulations will apply. If the school is not a regulated hazardous waste generator, the disposal of these chemicals may make them one. The regulations that apply to the school are based on the quantity of hazardous waste generated at one time and/or in a calendar month.

- If the school generates less than 25 kilograms (55 pounds) of a hazardous waste, they would be considered a “**Small Quantity Generator.**”



- If the school generates over 25 kilograms but less than 1,000 kilograms (2,200 pounds), they would be a “**Kansas Generator.**”
- If the school generates or accumulates over 1,000 kilograms, they would be an “**EPA Generator.**”

The generation of 1 kilogram of “P-listed” chemicals would also make the school an “EPA Generator”. Fact sheets explaining the applicable regulations for each generator type can be found on pages 21-33. Additional hazardous waste information is available in the *Hazardous Waste Generator’s Handbook* which is available on the internet or can be provided by the Bureau of Waste Management.

If a school is planning on completing a one-time clean-out of accumulated lab chemicals, the quantity of this one-time clean-out may change the generator status of the school. The change in generator status will require the school to meet additional hazardous waste regulations. However, the school may seek permission to avoid meeting the additional requirements for this one-time generation. To make this request, the school must write KDHE, Bureau of Waste Management, Waste Policy/Planning/Outreach Section, before the waste is generated. After the one-time generation is shipped off-site for disposal, if this process is followed, the school will return to its original generator status before the clean-up occurred.

IV. DISPOSAL OPTIONS

Small Quantity Generator - A small quantity generator may dispose of the waste chemicals in the following manner:

1) **Sanitary Sewer** - Some chemicals (acids or bases) may be neutralized and disposed to the sanitary sewer. This disposal option should be approved by the local waste water treatment officials prior to disposal. This may not be an option for some small communities that do not have sufficient treatment capacity at the waste water treatment plant for these types of wastes.

2) **Local Landfill** - If disposal at the local landfill is selected, the school will need to first obtain a “special waste disposal authorization” from the Kansas Department of Health and Environment, Bureau of Waste Management (BWM). The school should contact BWM at (785) 296-1120 to make these arrangements. The waste may need to be solidified or packaged properly



before being taken to the landfill. The landfill will give the final approval before accepting the waste for disposal.

3) **Household Hazardous Waste Facility** - Waste chemicals may be disposed through a local household hazardous waste facility (HHW) if the HHW has a small quantity generator program. Only a few HHW's have this additional program so make sure they are permitted to accept waste from small quantity generators before taking your waste to their site.

4) **Disposal Through A Contractor** - A contractor may be used for the disposal of the waste chemicals. A list of contractors and disposal companies can be found in the Hazardous Waste Generator Handbook in Appendix D. In addition, the State of Kansas has a contract with two hazardous waste disposal companies and the school may want to utilize the "state contract" for their disposal needs. School officials can call the Kansas Department of Administration, Division of Purchases, at (785) 296-2376 to obtain information about the state contract.

Kansas Generator and EPA Generator - These generators may dispose of the waste chemicals in the following manner:

1) **Sanitary Sewer** - Some chemicals (acids or bases) may be neutralized and disposed to the sanitary sewer. This disposal option should be approved by the local waste water treatment officials before disposal. This may not be an option for some small communities that do not have sufficient treatment capacity at the waste water treatment plant for these types of wastes.

2) **Disposal Through A Contractor** - A contractor may be used for the disposal of the waste chemicals. A list of contractors and disposal companies can be found in the "Hazardous Waste Generator Handbook" in Appendix D. In addition, the State of Kansas has a contract with two hazardous waste disposal companies and the school may want to utilize the "state contract" for their disposal needs. School officials can call the Kansas Department of Administration, Division of Purchases, at (785) 296-2376 to obtain information about the state contract.

If questions arise regarding the disposal of waste chemicals, the hazardous waste regulations, or disposal options, school officials may call BWM at (785) 296-1600 for assistance.



V. CHEMICAL LIST

NOTE: YOUR SCHOOL'S HAZARDOUS WASTE GENERATOR STATUS WILL DETERMINE YOUR DISPOSAL OPTIONS FOR YOUR LABORATORY CHEMICALS. Fact sheets on Small Quantity, Kansas, and EPA generators can be referenced on pages 23, 25, and 27 of this guidance document.

- 1) All empty containers that contained P-listed wastes and pesticides must be **triple rinsed** before being disposed at a sanitary landfill.
- 2) The following solid chemicals may be disposed of at a sanitary landfill, with a special waste authorization from KDHE:

actin	amber
adenosine	amberlite
acetyl glucosamine	amino acid
acetylic acid	ammonium acetate
agar **	aminoacetic acid
agarose	ammonium bicarbonate
alanine	ammonium chloride
albumen **	ammonium citrate
alconox	ammonium lactate
alginic acid	ammonium molybdate
aluminum acetate **	
aluminum hydroxide	
aluminum oxides	
aluminum potassium sulfate	
aluminum silicate	
aluminum sodium sulfate	
aluminum sulfide **	
aluminum sulfate	



SPECIAL WASTE CONTINUED:

ammonium phosphate **	calcium phosphate, monobasic **
ammonium phosphate, dibasic **	calcium sulfate
ammonium phosphate monobasic **	carbon black
ammonium stearate	carborundum
ammonium oxalate	carbowax
ammonium sulfate	carnosine
ammonium valerate	carotene
amylopectin	casein *
arabinose	celite
arginine	cellulose **
ascorbic acid	cellulose acetate
asparagine	cellulose phosphate **
aspartic acid	cerium oxide
beef extract **	charcoal
bees wax	chlorophyll
benzoic acid	cholesterol
bitumen	choline
blood agar **	choline chloride
borneol	chromatographic (absorbent)
boron carbide	citric acid
calcium acetate	corticotrophin
calcium borate	creatinine
calcium chloride *	cysteine
calcium chloride dihydrate *	cytosine
calcium citrate **	
calcium fluoride	
calcium gluconate **	
calcium lactate **	
calcium pantothenate **	
calcium phosphate **	

SPECIAL WASTE CONTINUED:

dextran	inositol
dextrose	inulin
epsom salts	iron oxide
ethylenediaminetetraacetic acid	isoleucine
ferric oxide	kaolin
ferric phosphate	keratin
ferric sulfate	lactic acid
ferritin	lactose
ferrous ammonium sulfate	lanolin
ferrous sulfate	lecithin
ferrous sulfide	lucine
fluorescein	lithium chloride
fructose	lithium sulfate
fullers earth **	litmus
galactose	magnesium borate
gelatin **	magnesium chloride *
globulin **	magnesium citrate
glutamic acid	magnesium lactate
glutamine	magnesium phosphate
glutaric acid	magnesium sulfate
glycine	malt extract **
guaiaac	maltose
guanine	mannitol
guanosine	methionine
gum arabic	
gypsum	
hemoglobin	
hippuric acid	
histidine	
hydroxyproline	

SPECIAL WASTE CONTINUED:

methyl histidine	potassium citrate
methyl lactate	potassium hydrogen phthalate
methylene blue	potassium lactate
molecular sieves	potassium metabisulfite
NADP	potassium pyrophosphate
naphthoflavone	potassium phosphate **
niacinamide	potassium sodium tartrate
nicotinamide	potassium sulfate
nicotinic acid	potassium sulfite
nutrient agar **	pumice
oleic acid	riboflavin
pancreatin	ribonucleic acid
papain	salicylic acid
paraffin	saponin
pepsin **	sephadex
peptone	serine
petrolatum	silica gel
petroleum jelly	silicon carbide
phenyl salicylate	silicon dioxide
phosphatidal choline	sodium acetate
phosphotungstic acid	sodium ammonium phosphate
phthalic acid	sodium benzoate
potassium acetate	sodium bismuthate (V)
potassium acid phosphate **	sodium bisulfate
potassium binoxalate	
potassium biphthalate	
potassium bisulfate	
potassium bitartrate	
potassium borate	
potassium chloride *	

SPECIAL WASTE CONTINUED:

sodium bisulfite	trisodium phosphate
sodium chloride	triton X
sodium cobaltinitrite	trypsin
sodium dodecyl sulfate	trypan blue
sodium formate	trypan red
sodium lactate	tryptophan
sodium phosphate (di, mono, tri)	tyrosine
sodium salicylate	urea **
sodium silicate	uricase
sodium succinate	uridine
sodium sulfate	valine
sodium sulphite	vanillic acid
sodium thiosulfate	xanthine
sodium trimetaphosphate	yeast extract **
sodium tungstate (VI)	zinc oxide
sorbitol	zinc phosphate
sorbose	
starch **	
stearin	
stearic acid	
succinic acid	
sucrose	
sugars	
talcum powder	
tartaric acid	
thiamine hydrochloride	
tin oxide	
titanium dioxide	
tocopherol	
tricalcium phosphate **	

Other Uses

May be used as ice melt. *

May be used as plant fertilizer. **

3) The following chemicals may be neutralized by using the appropriate acids and bases and flushed down a drain connected to a sanitary sewer with plenty of water.

Note: You should always obtain written permission from the city/town officials that operate the wastewater treatment plant prior to any disposal to the sanitary sewer. Do not flush to a septic system or lagoon, or storm sewer.

formic acid

ammonium hydroxide

hydrochloric acid

caustic potash - potassium hydroxide

muriatic acid

sodium hydroxide

4) The following chemicals can be flushed down a drain connected to a sanitary sewer with plenty of water. **Note: You should always obtain written permission from the city/town officials that operate the wastewater treatment plant prior to any disposal to the sanitary sewer. Do not flush to a septic system or lagoon, or storm sewer.**

ferric chloride - liquid

zinc chloride

ethylene glycol (antifreeze)

5) The following chemicals may be recycled or properly disposed through an approved permitted hazardous waste contractor depending on your generator status:

Please check with our office for guidance.

copper

mercury

silver

6) The following chemicals are known to be toxic and/or reactive and must be managed and disposed as a hazardous waste. These chemicals may become unstable over a period of time. If you are not sure, call your local emergency management agency or KDHE for guidance.

aluminum nitrate

ammonium dichromate

ammonium sulfamate

antimony trisulfide



TOXIC OR REACTIVE CHEMICALS CONTINUED:

arsenic trioxide	nickel sulfate
arsenous acid	oxalic acid
barium chloride	phenol
barium hydroxide anhydrous	potassium acid
barium sulfate	potassium bichromate
bismuth metal	potassium bromate
bismuth nitrate	potassium chlorate
blue niagara	potassium chromate (VI)
cadmium sulfate	potassium dichromate (VI)
cadmium sulfide powder	potassium ferrocyanide
calcium cyanide	potassium nitrate
calcium nitrate	potassium perchlorate
calcium acetate	potassium permanganate
chromium chloride	potassium persulfate
camphor	pyrogalllic acid
carbolic acid	roll sulfur
cupric bromide	silver cyanide
cupric chloride	silver nitrate
cupric oxide	sodium bichromate
cupric sulfate anhydrous	sodium chromate
cupric sulfide powder	sodium dichromate (VI)
cuprous chloride	sodium dithionite
cuprous oxide	sodium ferrocyanide
carbon tetrachloride	
mercuric oxide	
mercurous chloride	
mercuric nitrate	
mercurous iodide	
mercurous nitrate	
molybdenum chloride	
nickel chloride	



TOXIC OR REACTIVE CHEMICALS CONTINUED:

sodium iodate	tannic acid
sodium thiocyanate	toluene
stannous chloride	uranyl nitrate
strontium chloride	zinc metal
strontium nitrate	all unknowns

7) All wastes on the **P** and **U** list must be handled as hazardous waste unless they are approved for disposal to the sanitary sewer. These lists are included in Appendix A of this document.

8) The following chemicals are considered highly explosive and toxic and must be managed and disposed as a hazardous waste. These chemicals may become unstable over a period of time. To aid in your determination, if you are not sure, call your local emergency management agency or KDHE for guidance.

all azide compounds	fulminate of mercury
acetylides	fulminate of silver
uminum ophorite explosive	fulminating platinum
amantol	gelatinized nitrocellulose
ammonium nitrate	hexanite
ammonium perchlorate	hexanitrodiphenylamine
ammonium picrate	hexanitrostilbene
ammonium salt lattice	hexogen
calcium nitrate	hydrazine
cesium	hydrazine mixtures
dinitro ethylene urea	hydrazinium nitrate
dinitrophenol	
2, 4 dinitrophenylhydrazine	
dipicrylamine	
erythritol tetranitrate	

EXPLOSIVE & TOXIC CONTINUED:

lead azide	peroxide forming compounds
lead mannite	picramic acid
lead mononitroresorcinate	picrasmin (isoquassin)
lead nitrate	picric acid
lead salts	polynitro aliphatic compounds
lithium, sodium, and potassium metal (under oil)	silver azide
mannitol hexanitrate	silver styphante
nitrogen trichloride	silver tetrazene
nitroglycerin	itrobenzoic acid
nitroglycerol	trinitrocresol
nitroguanidine	trinitronaphthalene
nitrotoluene	2,4,6-trinitrotoluene
nitrourea	triton
organic peroxides	urea nitrate

9) The following chemicals are classified as peroxide formers and must be managed and disposed as a hazardous waste. These chemicals may become unstable and reactive over a period of time. To aid in your determination, if you are not sure, call your local emergency management agency or KDHE for guidance.

acrylic acid	chloroethoxy)ethane(pract)
allyl ether	bis(2-ethoxyethyl)adipate
allyl ethyl ether	bis(2-ethoxy ethyl)ether
allyl phenyl ether	bis(2-methoxyethoxy)ethane(pract)
p-anisaldehyde	
m-anisaldehyde	
m-anisyl alcohol	
benzoin methyl ether	
benzyl ether	
1 , 2 - b i s (w -	

PEROXIDE FORMERS CONTINUED:

bis-(2-methoxyethyl)ether	o-ethoxybenzoic acid
bis(pentyloxy)azoxybenzene	2-(e-ethoxyethoxy)ethanol
p-bromoanisole	p-ethoxyphenol
2-bromomethyl ethyl ether	furan
2-bromoethyl methyl ether	p-hexyloxybenzaldehyde
2-butoxyethanol	(p-hydroxyphenoxy)acetic acid
2-(butoxyethoxy)ethyl acetate(pract)	isoeugenol
t-butyl ethyl ether	isopentyl ether
t-butyl methyl ether	isophorane
decahydronaphthalene	ligroine
1,2-dichloroethyl ethyl ether	methoxyacetic acid
2,4-dichlorophenoxyacetic acid	p-methoxybenzylamine
diethoxymethane	2-(2-methoxyethoxy)ethanol
2,2-diethoxypropanediethyl ethoxymethylene	2-methoxyethyl acetate
malonate	2-methoxyethylamine
2,3-dihydro 2,5dimethoxyfuran(pract)	1-methoxynaphthalene
diisobutylene	4-methoxy-2-nitroaniline
2,5-dimethoxyaniline(pract)	m-methoxyphenol
3,4-dimethoxybenzaldehyde	methoxyphenylacetic acid
3,3-dimethoxy benzidine	o-methoxyphenyl isocyanate
2,4-dimethoxybenzoic acid	3-methoxypropionitrile
4,4-dimethoxy-2-butanone	o-methoxypropionitrile
1,2-dimethoxyethane	o-nitro phenyl ether
dimethoxymethane	
2,2-dimethoxypropane	
2,5-dimethoxytoluene	
p-dioxane	
1,3-dioxolane	
1,2-epoxy-3-isopropoxypropane	
4-ethoxyacetophenone	
p-ethoxybenzaldehyde	



PEROXIDE FORMERS CONTINUED:

2,5-norbornadiene	tetra ethylene glycol mono methyl ether
phenoxyacetic acid	vinyl acetate
styrene	
tetraethylene glycol	

10) The following chemicals react with water and produce excessive heat and flammable or toxic gases, and must be managed and disposed as a hazardous waste. Store under conditions that prevent contact with water. These chemicals may become unstable and reactive over a period of time. To aid in your determination, if you are not sure, call your local emergency management agency or KDHE for guidance.

acid anhydrides, e.g., <i>acetic anhydride</i>	calcium carbide
acid halides, inorganic, e.g., <i>sulfuryl chloride</i>	grignard reagents
acid halides, organic, e.g., <i>acetyl chloride</i>	metal alkyls
alkali metals, e.g., <i>metallic sodium</i>	non-metal halides, e.g., <i>boron trifluoride</i> ,
sodium dithionite	phosphorous trichloride

11) The following pyrophoric chemicals react with air and ignite spontaneously and must be managed and disposed as a hazardous waste. Pyrophorics should be stored in a tight container in an inert atmosphere. These chemicals may become unstable and reactive over a period of time. To aid in your determination, if you are not sure, call your local emergency management agency or KDHE for guidance.

activated zinc	phosphorous
aluminum trimethyl	raney nickel
butyl lithium	zinc diethyl

VI. CHEMICAL STORAGE GUIDE

Laboratory chemicals should be stored on non-flammable shelving or in cabinets. Avoid storing chemicals on top of cabinets and never within 18 inches of the ceiling in sprinkler areas. **Label all chemical containers properly.** Avoid storing chemicals on bench tops or in fume hoods. Store flammable chemicals in a flammable storage cabinet (preferably a ventilated cabinet). You may want to check with the local fire marshal. Separate chemicals into organic and inorganic families and then into related and compatible groups. Separation of chemical groups can be accomplished by using different shelves within the same cabinet if secondary spill containers are used. Do not store chemicals alphabetically except within a related and compatible group.

Note: Compatibility relates to possible interactions between chemicals and other chemicals when mixed causing a violent reaction, such as mixing an oxidizer chemical with a hydrocarbon chemical. Always check the reactivity data and storage requirements sections of the Material Safety Data Sheets (MSDS) for details about what substances are incompatible with a specific dangerously reactive material. Separate storage can minimize personal injury and damage caused by fires, spills, or leaks.

Storage Groups that are Related and Compatible

Inorganic Family

The following chemicals are compatible and may be stored together:

- 1) metals, hydrides
- 2) halides, sulfates, sulfites, thiosulfates, phosphates, halogens
- 3) amides, nitrates (ammonium nitrate), nitrites, azides
- 4) hydroxides, oxides, silicates, carbonates, carbon
- 5) sulfur, selenides, phosphides, carbides, carbon
- 6) chlorates, perchlorates, perchloric acid, chlorites, hypochlorites, peroxides, hydrogen peroxide
- 7) arsenates, cyanides, cyanates
- 8) borates, chromates, manganates, permanganates
- 9) nitric acid, other inorganic acids
- 10) sulfur, phosphorus, arsenic, phosphorus pentoxide

Organic Family



The following chemicals are compatible and may be stored together:

- 1) organic acids, anhydrides, peracids
- 2) alcohols, glycols, amines, amides, imides, imines
- 3) hydrocarbons, esters, aldehydes
- 4) ethers, ketones, ketenes, halogenated hydrocarbons, ethylene oxide
- 5) epoxy compounds, isocyanates
- 6) peroxides, hydroperoxides, azides
- 7) sulfides, polysulfides, sulfoxides, nitrites
- 8) phenols, cresols

Note: When storing the chemicals above, it is important to segregate acids and flammable solvents from other chemicals.

Chemical Compatibility Storage Guidelines

Guard against accidental mixing by segregating chemicals as follows:

- 1) **Mineral (inorganic) acids** - examples: boric acid, hydrobromic acid, hydrochloric acid, phosphoric acid, sulfuric acid.
- 2) **Oxidizers** - examples: bromic acid, chromic acid, perchloric acid, nitric acid, bromine, chlorine, fluorine, silver nitrate, permanganates, and many perchlorates.

Note: Do not store oxidizers directly on wooden shelves or on paper shelf liners!

Spilled material may react with the organic contents of wood/paper and ignite spontaneously.

- 3) **Bases/caustics** - examples: aqueous ammonia, ammonium hydroxide, potassium hydroxide, sodium hydroxide.
- 4) **Organic solvents/acids** - examples: acetic acid, acetone, benzene, carbon tetrachloride, citric acid, isopropyl ether, methylene chloride, tetrahydrofuran.

Note: If space is limited, separate flammable and non-flammable organic liquids in flammable storage cabinets.

- 5) **Highly toxic/carcinogenic** - examples: acrolein, acrylamide, arsenic pentoxide, botulinum toxin, hydrazine, methyl isocyanate, pentachlorophenol, phorbol esters, sodium azide.
- 6) **Pyrophoric materials** - examples: diethylaluminum chloride, lithium, white or yellow

phosphorus, trimethylaluminum.

7) **General “dry” lab chemicals** - examples: most of the relatively innocuous and unreactive materials commonly found in laboratories.

8) **Gases** - segregate by hazard class. Acutely toxic and toxic gases should be stored in gas cabinets or fume hoods. Cylinders should be double chained or double strapped to substantial fixed surfaces. Cylinders should be turned off at the cylinder valve when not in use and should be capped when stored.

9) **Water reactive** - examples: acid anhydrides, aluminum bromide, calcium, calcium carbide, calcium oxide, metal hydrides, potassium, sodium.

10) **Controlled substances** - narcotics and other controlled substances must be stored in a secured, locked location such as a drawer or safe.

VII. SMALL QUANTITY GENERATOR FACT SHEET

A Small Quantity Generator generates less than 1 kilogram (2.2 pounds) of acutely hazardous waste or less than 25 kilograms (55 pounds) of hazardous waste in any single calendar month. A Small Quantity Generator accumulates less than 1,000 kilograms (2,200 pounds) or less than 1 kilogram (2.2 pounds) of acutely hazardous waste at any time, or less than 25 kilograms (55 pounds) of debris contaminated materials from a clean up of spillage of acutely hazardous waste. A Small Quantity Generator is subject to the following regulations:

A. Waste Determination (K.A.R. 28-31-4(b))

The generator must determine what wastes are hazardous and the total quantity of wastes generated. This may be done by reviewing the four characteristics as defined in the 40 CFR (Code of Federal Regulations), Part 261, Subpart C and the four lists of hazardous wastes as defined in Subpart D of the same regulation, or by knowledge of the process which generates the waste.

B. Accumulation (K.A.R. 28-31-4(m))

1) If at any time more than a total of 1,000 kilograms of hazardous waste or one kilogram of acutely hazardous waste is accumulated, all of those accumulated wastes will be subject to all the EPA generator requirements outlined in K.A.R. 28-31-4(g).

2) A small quantity generator accumulating 25 kilograms or more of hazardous waste shall either recycle, treat or dispose of the waste in an acceptable on-site facility, or ensure delivery to an off-site hazardous waste treatment, storage, or disposal facility, or to a waste management facility approved by the secretary.

C. Pre-Transport Requirements (K.A.R. 28-31-4(e))

Package, label, mark, and placard all shipments of hazardous waste in accordance with the Department of Transportation (DOT) requirements.

D. Storage Requirements (K.A.R. 28-31-4(h)/40 CFR, Part 265 Subparts I and/or J)

The generator must meet the storage requirements as follows:

For containers:

- 1) Must be in good condition.
- 2) Must be compatible with the hazardous waste to be stored.



- 3) Must remain closed except when adding or removing hazardous waste(s).
- 4) Must mark each container with the words “Hazardous Waste” and the accumulation start date.
- 5) Must conduct weekly inspections of the storage containers, storage area and maintain a log of the inspections.

E. Disposal

A small quantity generator who accumulates up to 25 kilograms of hazardous waste may either treat or dispose of the waste in an acceptable on-site facility, or ensure delivery to an off-site storage, treatment, disposal facility. In either case, the facility shall be:

- 1) Permitted to manage hazardous waste;
- 2) Operating under interim status;
- 3) Permitted to manage solid waste; or
- 4) A facility which beneficially treats, reuses, or legitimately recycles or reclaims its waste.

F. Universal Waste Rule (40 CFR Part 273)

This rule is applicable to waste batteries, pesticides, mercury thermostats, fluorescent lamps, and household and small quantity generator waste.

VIII. KANSAS GENERATOR FACT SHEET

A Kansas Generator is a facility which generates greater than 25 kilograms (55 pounds) of hazardous waste but less than 1,000 kilograms (2,200 pounds) in any single calendar month, or less than 1 kilogram (2.2 pounds) of acutely hazardous waste at any time, or less than 25 kilograms (55 pounds) of debris contaminated materials from a clean up of spillage of acutely hazardous waste. A Kansas Generator is subject to the following regulations:

A. Waste Determination (K.A.R. 28-31-4(b))

The generator must determine what wastes are hazardous and the total quantity of wastes generated. This may be done by reviewing the four characteristics as defined in the 40 CFR (Code of Federal Regulations), Part 261, Subpart C and the four lists of hazardous wastes as defined in Subpart D of the same regulation, or by knowledge of the process which generates the waste.

B. Notify and obtain EPA Identification Number (K.A.R. 28-31-4(c))

An EPA identification number can be obtained by submitting a “Notification of Regulated Hazardous Waste Activity” (form 8700-12) to the Kansas Department of Health and Environment.

C. Prepare a Manifest (K.A.R. 28-31-4(d))

A uniform hazardous waste manifest must be used for all shipments of hazardous waste unless there is a contractual agreement or universal waste is being shipped or handled.

D. Prepare a Land Disposal Restriction (LDR) Notice (K.A.R. 28-31-14)

An LDR Notice must accompany the initial shipment of hazardous waste and should be attached to the manifest.

E. Pre-Transport Requirements (K.A.R. 28-31-4(e))

Package, label, mark, and placard all shipments of hazardous waste in accordance with the Department of Transportation (DOT) requirements.

F. Storage Requirements (K.A.R. 28-31-4(g)(h)/40 CFR, Part 265 Subparts I and/or J)

The generator must meet the storage requirements as follows:

For containers:

- 1) Must be in good condition.



- 2) Must be compatible with the hazardous waste to be stored.
- 3) Must remain closed except when adding or removing hazardous waste(s).
- 4) Must mark each container with the words “Hazardous Waste” and the accumulation start date.
- 5) Must conduct weekly inspections of the storage containers, storage area and maintain a log of the inspection.
- 6) Satellite accumulation:

a) A generator may accumulate one container of up to 55 gallons of each hazardous waste or one container of up to one quart of each acutely hazardous waste at or near the point of generation, provided the containers are: (1) compatible with the waste; (2) marked with the words “Hazardous Waste”; and (3) closed when not in use.

b) When the generator accumulates more than the amounts listed above, the accumulation start date shall be placed on the full container. The generator shall move the full container to the hazardous waste storage area within three days.

G. Record Keeping (K.A.R. 28-31-4(f))

Prepare and maintain the following records for three years.

- 1) A signed copy of all manifests initiated.
- 2) Manifest exception report(s).
- 3) Hazardous waste analyses.
- 4) Weekly/daily/inspection reports.
- 5) Shipping invoices/documents of universal waste(s).
- 6) Land Disposal Restriction notices and all documents to the LDR regulations must be kept for three years.

H. Universal Waste Rule (40 CFR Part 273)

This rule is applicable to waste batteries, pesticides, mercury thermostats, fluorescent lamps and household and small quantity generator waste.

IX. EPA GENERATOR FACT SHEET

An EPA Generator is a facility which generates in any single month or accumulates at any



time 1,000 kilograms (2,200 pounds) or more of hazardous waste in any single month, or one kilogram (2.2 pounds) of acutely hazardous waste at any time, or 25 kilograms (55 pounds) of debris contaminated materials from a clean up of spillage of acutely hazardous waste. An EPA Generator is subject to the following regulations:

A. Waste Determination (K.A.R. 28-31-4(b))

The generator must determine what wastes are hazardous and the total quantity of wastes generated. This may be done by reviewing the four characteristics as defined in the 40 CFR (Code of Federal Regulations), Part 261, Subpart C and the four lists of hazardous wastes as defined in Subpart D of the same regulation, or by knowledge of the process which generates the waste.

B. Notify and Obtain EPA Identification Number (K.A.R. 28-31-4(c))

An EPA identification number can be obtained by submitting a “Notification of Hazardous Waste Activity” (form 8700-12) to the Kansas Department of Health and Environment.

C. Prepare a Manifest (K.A.R. 28-31-4(d))

A uniform hazardous waste manifest must be used for all shipments of hazardous waste unless shipping or handling a universal waste.

D. Prepare a Land Disposal Restriction (LDR) Notice (K.A.R. 28-31-14)

An LDR Notice must accompany the initial shipment of hazardous waste. The notice should be attached to the manifest.

E. Pre-Transport Requirements (K.A.R. 28-31-4(e))

Package, label, mark, and placard all shipments of hazardous waste in accordance with the Department of Transportation (DOT) requirements.

F. Storage Requirements (K.A.R. 28-31-4(g)&(h)/or 40 CFR, Part 265 Subparts I and or J)

The generator must meet the storage requirements as follows:

For containers:

- 1) Must be in good condition.
- 2) Must be compatible with the hazardous waste to be stored.
- 3) Must remain closed except when adding or removing hazardous waste(s).
- 4) Must mark each container with the words “Hazardous Waste” and the accumulation start date.
- 5) Must store containers of ignitable or reactive hazardous waste at least 50 feet from the facility’s property line.
- 6) Must inspect storage area weekly and maintain a log of inspections.
- 7) Satellite accumulation:
 - a) A generator may accumulate one container of up to 55 gallons of each hazardous waste or one container of up to one quart of each acutely hazardous waste at or near the point of generation, provided the containers are: (1) compatible with the waste; (2) in good condition; (3) closed except to add or remove wastes; and (4) marked with the words “Hazardous Waste “.
 - b) When the generator accumulates more than the amounts listed above, the accumulation start date shall be placed on the full container. The generator shall move the full container to the hazardous waste storage area within three days.

G. Record Keeping (K.A.R. 28-31-4(0))

Prepare and maintain the following records for three year

- 1) A signed copy of all manifests initiated.
- 2) Annual and biennial report(s).
- 3) Manifest exception report(s).
- 4) Hazardous waste analyses.
- 5) Weekly/daily inspection reports.
- 6) Shipping invoices/documents of universal waste(s).
- 7) Land Disposal Restriction notices and all documents relating to the LDR regulations must be kept for three years.
- 8) Training records.

H. Special Conditions (40 CFR, Part 262, Subpart E)

Report all international shipments of hazardous waste to the Kansas Department of Health and Environment and the Environmental Protection Agency.

I. Personnel Training (K.A.R. 28-31-4 (g))

The generator must develop a personnel training program to ensure that facility personnel are able to respond effectively to a hazardous waste emergency. The program must include:

- 1) A director trained in hazardous waste procedures.
- 2) Instruction which teaches facility personnel about the location of emergency response and monitoring equipment, maintenance and operation of such equipment, communications procedures and response procedures for fires, explosions and contamination incidents. Training must be completed within six months after the date an employee is hired or enters a position.
- 3) An annual review of the initial training.
- 4) Development of job titles, job descriptions, a description of training to be given each job title, and a record of all training which occurs.

J. Preparedness and Prevention (K.A.R. 28-31-4(g))

The generator must adequately provide for preparedness and prevention with the following precautions:

- 1) Proper maintenance of facilities to minimize releases of hazardous waste.
- 2) Where appropriate for the type of waste generated, provide an internal communications or alarm system, a telephone or two-way radio and fire extinguishing and control equipment. All required equipment must be tested and maintained to ensure proper operation.
- 3) Provide personnel working directly with hazardous waste with immediate access, to communications and alarm equipment.
- 4) Maintain aisle space sufficient to allow passage of personnel and fire, spill control and decontamination equipment.
- 5) Make arrangements with the local hospital, police department, fire department and emergency response team to familiarize them with the plant layout and the hazards involved with the wastes generated. Such arrangements should be documented.

K. Contingency Plan (K.A.R. 28-31-4 (g))

The generator must develop a contingency plan and implement emergency procedures to ensure that releases of hazardous waste are properly handled. The contingency plan must provide for:

- 1) A description of the actions facility personnel must take to respond to a release.
- 2) A description of the arrangements made with local authorities for emergency services.
- 3) Designation of primary and secondary emergency coordinators and listing of their office and home addresses and phone numbers. Assure that an emergency coordinator is on site or on call at all times.
- 4) A list of all emergency equipment on site, its description, capabilities and the specific location.
- 5) An evacuation plan where the potential need for evacuation exists.
- 6) Describe signal to be used to begin evacuation.
- 7) Copies of the contingency plan must be maintained at the facility and copies submitted to the local police department, fire department, hospital and emergency response teams.
- 8) The contingency plan to be periodically reviewed and maintained.

APPENDIX A

(P-List)

Discarded Acutely Toxic Commercial Chemical Products, Off-Specification Species, Container Residues and Spills

Hazardous Waste Number	Chemical Abstract Number	Substance (Hazard Code*)
P023	..... 107 - 20 - 0	..... Acetaldehyde, chloro-
P002	..... 591 - 08 - 2	..... Acetamide, N-(aminothioxomethyl)-
P057	..... 640 - 19 - 7	..... Acetamide, 2-fluoro-
P058	..... 62 - 74 - 8	..... Acetic acid, fluoro-, sodium salt
P002	..... 591 - 08 - 2	..... 1-Acetyl-2-thiourea
P003	..... 107 - 02 - 8	..... Acrolein
P070	..... 116 - 06 - 3	..... Aldicarb
P004	..... 309 - 00 - 2	..... Aldrin
P005	..... 107 - 18 - 6	..... Allyl alcohol
P006	..... 20859 - 73 - 8	..... Aluminum phosphide (R,T)
P007	..... 2763 - 96 - 4	..... 5-(Aminomethyl)-3-isoxazolol
P008	..... 504 - 24 - 5	..... 4-Aminopyridine
P009	..... 131 - 74 - 8	..... Ammonium picrate (R)
P119	..... 7803 - 55 - 6	..... Ammonium vanadate
P099	..... 506 - 61 - 6	..... Argentate(1-), bis(cyano-C)-, potassium
P010	..... 7778 - 39 - 4	..... Arsenic acid H_3AsO_4
P012	..... 1327 - 53 - 3	..... Arsenic oxide As_2O_3
P011	..... 303 - 28 - 2	..... Arsenic oxide As_2O_5
P011	..... 1303 - 28 - 2	..... Arsenic pentoxide
P012	..... 1327 - 53 - 3	..... Arsenic trioxide
P038	..... 692 - 42 - 2	..... Arsine, diethyl-
P036	..... 696 - 28 - 6	..... Arsonous dichloride, phenyl-
P054	..... 151 - 56 - 4	..... Aziridine
P067	..... 75 - 55 - 8	..... Aziridine, 2-methyl-
P013	..... 542 - 62 - 1	..... Barium cyanide
P024	..... 106 - 47 - 8	..... Benzenamine, 4-chloro-
P077	..... 100 - 01 - 6	..... Benzenamine, 4-nitro-
P028	..... 100 - 44 - 7	..... Benzene, (chloromethyl)-
P042	..... 51 - 43 - 4	..... 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	..... 122 - 09 - 8	..... Benzeneethanamine, alpha,alpha-dimethyl-
P014	..... 108 - 98 - 5	..... Benzenethiol
P001	..... 81 - 81 - 2	..... 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	..... 100 - 44 - 7	..... Benzyl chloride



P015	..... 7440 - 41 - 7	Beryllium
P017	..... 598 - 31 - 2	Bromoacetone
P018	..... 357 - 57 - 3	Brucine
P045	..... 39196 - 18 - 4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino]carbonyl]oxime
P021	..... 592 - 01 - 8	Calcium cyanide
P021	..... 592 - 01 - 8	Calcium cyanide $\text{Ca}(\text{CN})_2$
P022	..... 75 - 15 - 0	Carbon disulfide
P095	..... 75 - 44 - 5	Carbonic dichloride
P023	..... 107 - 20 - 0	Chloroacetaldehyde
P024	..... 106 - 47 - 8	p-Chloroaniline
P026	..... 5344 - 82 - 1	1-(o-Chlorophenyl)thiourea
P027	..... 542 - 76 - 7	3-Chloropropionitrile
P029	..... 544 - 92 - 3	Copper cyanide
P029	..... 544 - 92 - 3	Copper cyanide $\text{Cu}(\text{CN})$
P030	.....	Cyanides (soluble cyanide salts), not otherwise specified
P031	..... 460 - 19 - 5	Cyanogen
P033	..... 506 - 77 - 4	Cyanogen chloride
P033	..... 506 - 77 - 4	Cyanogen chloride $(\text{CN})\text{Cl}$
P034	..... 131 - 89 - 5	2-Cyclohexyl-4,6-dinitrophenol
P016	..... 542 - 88 - 1	Dichloromethyl ether
P036	..... 696 - 28 - 6	Dichlorophenylarsine
P037	..... 60 - 57 - 1	Dieldrin
P038	..... 692 - 42 - 2	Diethylarsine
P041	..... 311 - 45 - 5	Diethyl-p-nitrophenyl phosphate
P040	..... 297 - 97 - 2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	..... 55 - 91 - 4	Diisopropylfluorophosphate (DFP)
P004	..... 309 - 00 - 2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	..... 465 - 73 - 6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	..... 60 - 57 - 1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	..... 72 - 20 - 8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-, & metabolites
P044	..... 60 - 51 - 5	Dimethoate
P046	..... 122 - 09 - 8	alpha,alpha-Dimethylphenethylamine
P047	..... 534 - 52 - 1	4,6-Dinitro-o-cresol, & salts
P048	..... 51 - 28 - 5	2,4-Dinitrophenol
P020	..... 88 - 85 - 7	Dinoseb
P085	..... 152 - 16 - 9	Diphosphoramidate, octamethyl-



P111	..... 107 - 49 - 3	..... Diposphoric acid, tetraethyl ester
P039	..... 298 - 04 - 4	..... Disulfoton
P049	..... 541 - 53 - 7	..... Dithiobiuret
P050	..... 115 - 29 - 7	..... Endosulfan
P088	..... 145 - 73 - 3	..... Endothall
P051	..... 72 - 20 - 8	..... Endrin
P051	..... 72 - 20 - 8	..... Endrin, & metabolites
P042	..... 51 - 43 - 4	..... Epinephrine
P031	..... 460 - 19 - 5	..... Ethanedinitrile
P066	..... 16752 - 77 - 5	..... Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester
P101	..... 107 - 12 - 0	..... Ethyl cyanide
P054	..... 151 - 56 - 4	..... Ethyleneimine
P097	..... 52 - 85 - 7	..... Famphur
P056	..... 7782 - 41 - 4	..... Fluorine
P057	..... 640 - 19 - 7	..... Fluoroacetamide
P058	..... 62 - 74 - 8	..... Fluoroacetic acid, sodium salt
P065	..... 628 - 86 - 4	..... Fulminic acid, mercury(2+) salt (R,T)
P059	..... 76 - 44 - 8	..... Heptachlor
P062	..... 757 - 58 - 4	..... Hexaethyl tetraphosphate
P116	..... 79 - 19 - 6	..... Hydrazinecarbothioamide
P068	..... 60 - 34 - 4	..... Hydrazine, methyl-
P063	..... 74 - 90 - 8	..... Hydrocyanic acid
P063	..... 74 - 90 - 8	..... Hydrogen cyanide
P096	..... 7803 - 51 - 2	..... Hydrogen phosphide
P060	..... 465 - 73 - 6	..... Isodrin
P007	..... 2763 - 96 - 4	..... 3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	..... 62 - 38 - 4	..... Mercury, (acetato-O)phenyl-
P065	..... 628 - 86 - 4	..... Mercury fulminate (R,T)
P082	..... 62 - 75 - 9	..... Methanamine, N-methyl-N-nitroso-
P064	..... 624 - 83 - 9	..... Methane, isocyanato-
P016	..... 542 - 88 - 1	..... Methane, oxybis[chloro-
P112	..... 509 - 14 - 8	..... Methane, tetranitro- (R)
P118	..... 75 - 70 - 7	..... Methanethiol, trichloro-
P050	..... 115 - 29 - 7	..... 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	..... 76 - 44 - 8	..... 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a- tetrahydro-
P066	..... 16752 - 77 - 5	..... Methomyl
P068	..... 60 - 34 - 4	..... Methyl hydrazine
P064	..... 624 - 83 - 9	..... Methyl isocyanate
P069	..... 75 - 86 - 5	..... 2-Methylactonitrile
P071	..... 298 - 00 - 0	..... Methyl parathion
P072	..... 86 - 88 - 4	..... alpha-Naphthylthiourea
P073	..... 13463 - 39 - 3	..... Nickel carbonyl
P073	..... 13463 - 39 - 3	..... Nickel carbonyl Ni(CO) ₄ , (T-4)-
P074	..... 557 - 19 - 7	..... Nickel cyanide



P074	..... 557 - 19 - 7	Nickel cynaide $\text{Ni}(\text{CN})_2$
P075	..... 54 - 11 - 5	Nicotine, & salts
P076	..... 10102 - 43 - 9	Nitric oxide
P077	..... 100 - 01 - 6	p-Nitroaniline
P078	..... 10102 - 44 - 0	Nitrogen dioxide
P076	..... 10102 - 43 - 9	Nitrogen oxide NO
P078	..... 10102 - 44 - 0	Nitrogen oxide NO_2
P081	..... 55 - 63 - 0	Nitroglycerine (R)
P082	..... 62 - 75 - 9	N-Nitrosodimethylamine
P084	..... 4549 - 40 - 0	N-Nitrosomethylvinylamine
P085	..... 152 - 16 - 9	Octamethylpyrophosphoramide
P087	..... 20816 - 12 - 0	Osmium oxide OsO_4 , (T-4)-
P087	..... 20816 - 12 - 0	Osmium tetroxide
P088	..... 145 - 73 - 3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	..... 56 - 38 - 2	Parathion
P034	..... 131 - 89 - 5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	..... 51 - 28 - 5	Phenol, 2,4-dinitro-
P047	..... 534 - 52 - 1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	..... 88 - 85 - 7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	..... 131 - 74 - 8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	..... 62 - 38 - 4	Phenylmercury acetate
P093	..... 103 - 85 - 5	Phenylthiourea
P094	..... 298 - 02 - 2	Phorate
P095	..... 75 - 44 - 5	Phosgene
P096	..... 7803 - 51 - 2	Phosphine
P041	..... 311 - 45 - 5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	..... 298 - 04 - 4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	..... 298 - 02 - 2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	..... 60 - 51 - 5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino) -2-oxoethyl] ester
P043	..... 55 - 91 - 4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	..... 56 - 38 - 2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	..... 297 - 97 - 2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	..... 52 - 85 - 7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	..... 298 - 00 - 0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P110	..... 78 - 00 - 2	Plumbane, tetraethyl-
P098	..... 151 - 50 - 8	Potassium cyanide
P098	..... 151 - 50 - 8	Potassium cyanide $\text{K}(\text{CN})$
P099	..... 506 - 61 - 6	Potassium silver cyanide
P070	..... 116 - 06 - 3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	..... 107 - 12 - 0	Propanenitrile
P027	..... 542 - 76 - 7	Propanenitrile, 3-chloro-
P069	..... 75 - 86 - 5	Propanenitrile, 2-hydroxy-2-methyl-
P081	..... 55 - 63 - 0	1,2,3-Propanetriol, trinitrate (R)
P017	..... 598 - 31 - 2	2-Propanone, 1-bromo-
P102	..... 107 - 19 - 7	Propargyl alcohol

P003	..... 107 - 02 - 8	..... 2-Propenal
P005	..... 107 - 18 - 6	..... 2-Propen-1-ol
P067	..... 75 - 55 - 8	..... 1,2-Propylenimine
P102	..... 107 - 19 - 7	..... 2-Propyn-1-ol
P008	..... 504 - 24 - 5	..... 4-Pyridinamine
P075	..... 54 - 11 - 5	..... Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P114	..... 12039 - 52 - 0	..... Selenious acid, dithallium(1+) salt
P103	..... 630 - 10 - 4	..... Selenourea
P104	..... 506 - 64 - 9	..... Silver cyanide
P104	..... 506 - 64 - 9	..... Silver cyanide Ag(CN)
P105	..... 26628 - 22 - 8	..... Sodium azide
P106	..... 143 - 33 - 9	..... Sodium cyanide
P106	..... 143 - 33 - 9	..... Sodium cyanide Na(CN)
P108	..... 57 - 24 - 9	..... Strychnidin-10-one, & salts
P018	..... 357 - 57 - 3	..... Strychnidin-10-one, 2,3-dimethoxy-
P108	..... 57 - 24 - 9	..... Strychnine, & salts
P115	..... 7446 - 18 - 6	..... Sulfuric acid, dithallium(1+) salt
P109	..... 3689 - 24 - 5	..... Tetraethyldithiopyrophosphate
P110	..... 78 - 00 - 2	..... Tetraethyl lead
P111	..... 107 - 49 - 3	..... Tetraethyl pyrophosphate
P112	..... 509 - 14 - 8	..... Tetranitromethane (R)
P062	..... 757 - 58 - 4	..... Tetrphosphoric acid, hexaethyl ester
P113	..... 1314 - 32 - 5	..... Thallic oxide
P113	..... 1314 - 32 - 5	..... Thallium oxide Tl_2O_3
P114	..... 12039 - 52 - 0	..... Thallium(I) selenite
P115	..... 7446 - 18 - 6	..... Thallium(I) sulfate
P109	..... 3689 - 24 - 5	..... Thiodiphosphoric acid, tetraethyl ester
P045	..... 39196 - 18 - 4	..... Thiofanox
P049	..... 541 - 53 - 7	..... Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	..... 108 - 98 - 5	..... Thiophenol
P116	..... 79 - 19 - 6	..... Thiosemicarbazide
P026	..... 5344 - 82 - 1	..... Thiourea, (2-chlorophenyl)-
P072	..... 86 - 88 - 4	..... Thiourea, 1-naphthalenyl-
P093	..... 103 - 85 - 5	..... Thiourea, phenyl-
P123	..... 8001 - 35 - 2	..... Toxaphene
P118	..... 75 - 70 - 7	..... Trichloromethanethiol
P119	..... 7803 - 55 - 6	..... Vanadic acid, ammonium salt
P120	..... 1314 - 62 - 1	..... Vanadium oxide V_2O_5
P120	..... 1314 - 62 - 1	..... Vanadium pentoxide
P084	..... 4549 - 40 - 0	..... Vinylamine, N-methyl-N-nitroso-
P001	..... 81 - 81 - 2	..... Warfarin, & salts, when present at concentrations greater than 0.3%
P121	..... 557 - 21 - 1	..... Zinc cyanide
P121	..... 557 - 21 - 1	..... Zinc cyanide $Zn(CN)_2$
P122	..... 1314 - 84 - 7	..... Zinc phosphide Zn_3P_2 , when present at concentrations greater than 10% (R,T)



* Hazard Codes

I Ignitable Waste

C Corrosive Waste

R Reactive Waste

E Toxicity Characteristic Waste

H Acute Hazardous Waste

T Toxic Waste

(U-List)

Discarded Commercial Chemical Products, Off-Specification Species, Container Residues and Spills

Hazardous Waste Number	Chemical Abstract Number	Substance (Hazard Code*)
U001	75 - 07 - 0	Acetaldehyde (I)
U034	75 - 87 - 6	Acetaldehyde, trichloro-
U187	62 - 44 - 2	Acetamide, N-(4-ethoxyphenyl)-
U005	53 - 96 - 3	Acetamide, N-9H-fluoren-2-yl-
U240	94 - 75 - 7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141 - 78 - 6	Acetic acid ethyl ester (I)
U144	301 - 04 - 2	Acetic acid, lead(2+) salt
U214	563 - 68 - 8	Acetic acid, thallium(1+) salt
see F027.	93 - 76 - 5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67 - 64 - 1	Acetone (I)
U003	75 - 05 - 8	Acetonitrile (I,T)
U004	98 - 86 - 2	Acetophenone
U005	53 - 96 - 3	2-Acetylaminofluorene
U006	75 - 36 - 5	Acetyl chloride (C,R,T)
U007	79 - 06 - 1	Acrylamide
U008	79 - 10 - 7	Acrylic acid (I)
U009	107 - 13 - 1	Acrylonitrile
U011	61 - 82 - 5	Amitrole
U012	62 - 53 - 3	Aniline (I,T)
U136	75 - 60 - 5	Arsinic acid, dimethyl-
U014	492 - 80 - 8	Auramine
U015	115 - 02 - 6	Azaserine
U010	50 - 07 - 7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[aminocarbonyl]oxy]methyl]-1,1a,2,8,8a,8b- hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta, 8aalpha,8balph)]-
U157	56 - 49 - 5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225 - 51 - 4	Benz[c]acridine
U017	98 - 87 - 3	Benzal chloride
U192	23950 - 58 - 5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56 - 55 - 3	Benz[a]anthracene
U094	57 - 97 - 6	Benz[a]anthracene, 7,12-dimethyl-
U012	62 - 53 - 3	Benzenamine (I,T)
U014	492 - 80 - 8	Benzenamine, 4,4¼-carbonimidoylbis[N,N-dimethyl-



U049	..... 3165 - 93 - 3	..... Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	..... 60 - 11 - 7	..... Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	..... 95 - 53 - 4	..... Benzenamine, 2-methyl-
U353	..... 106 - 49 - 0	..... Benzenamine, 4-methyl-
U158	..... 101 - 14 - 4	..... Benzenamine, 4,4 ¹ / ₄ -methylenebis[2-chloro-
U222	..... 636 - 21 - 5	..... Benzenamine, 2-methyl-, hydrochloride
U181	..... 99 - 55 - 8	..... Benzenamine, 2-methyl-5-nitro-
U019	..... 71 - 43 - 2	..... Benzene (I,T)
U038	..... 510 - 15 - 6	..... Benzeneaceticacid,4-chloro-alpha- (4-chlorophenyl)-alpha-hydroxy-,ethyl ester
U030	..... 101 - 55 - 3	..... Benzene, 1-bromo-4-phenoxy-
U035	..... 305 - 03 - 3	..... Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	..... 108 - 90 - 7	..... Benzene, chloro-
U221	..... 25376 - 45 - 8	..... Benzenediamine, ar-methyl-
U028	..... 117 - 81 - 7	..... 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	..... 84 - 74 - 2	..... 1,2-Benzenedicarboxylic acid, dibutyl ester
U088	..... 84 - 66 - 2	..... 1,2-Benzenedicarboxylic acid, diethyl ester
U102	..... 131 - 11 - 3	..... 1,2-Benzenedicarboxylic acid, dimethyl ester
U107	..... 117 - 84 - 0	..... 1,2-Benzenedicarboxylic acid, dioctyl ester
U070	..... 95 - 50 - 1	..... Benzene, 1,2-dichloro-
U071	..... 541 - 73 - 1	..... Benzene, 1,3-dichloro-
U072	..... 106 - 46 - 7	..... Benzene, 1,4-dichloro-
U060	..... 72 - 54 - 8	..... Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	..... 98 - 87 - 3	..... Benzene, (dichloromethyl)-
U223	..... 26471 - 62 - 5	..... Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	..... 1330 - 20 - 7	..... Benzene, dimethyl- (I,T)
U201	..... 108 - 46 - 3	..... 1,3-Benzenediol
U127	..... 118 - 74 - 1	..... Benzene, hexachloro-
U056	..... 110 - 82 - 7	..... Benzene, hexahydro- (I)
U220	..... 108 - 88 - 3	..... Benzene, methyl-
U105	..... 121 - 14 - 2	..... Benzene, 1-methyl-2,4-dinitro-
U106	..... 606 - 20 - 2	..... Benzene, 2-methyl-1,3-dinitro-
U055	..... 98 - 82 - 8	..... Benzene, (1-methylethyl)- (I)
U169	..... 98 - 95 - 3	..... Benzene, nitro-
U183	..... 608 - 93 - 5	..... Benzene, pentachloro-
U185	..... 82 - 68 - 8	..... Benzene, pentachloronitro-
U020	..... 98 - 09 - 9	..... Benzenesulfonic acid chloride (C,R)
U020	..... 98 - 09 - 9	..... Benzenesulfonyl chloride (C,R)
U207	..... 95 - 94 - 3	..... Benzene, 1,2,4,5-tetrachloro-
U061	..... 50 - 29 - 3	..... Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	..... 72 - 43 - 5	..... Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	..... 98 - 07 - 7	..... Benzene, (trichloromethyl)-
U234	..... 99 - 35 - 4	..... Benzene, 1,3,5-trinitro-
U021	..... 92 - 87 - 5	..... Benzidine
U202	..... 81 - 07 - 2	..... 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U203	..... 94 - 59 - 7	..... 1,3-Benzodioxole, 5-(2-propenyl)-



U141	..... 120 - 58 - 1	..... 1,3-Benzodioxole, 5-(1-propenyl)-
U090	..... 94 - 58 - 6	..... 1,3-Benzodioxole, 5-propyl-
U064	..... 189 - 55 - 9	..... Benzo[<i>rst</i>]pentaphene
U248	..... 81 - 81 - 2	..... 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0. 3% or less
U022	..... 50 - 32 - 8	..... Benzo[<i>a</i>]pyrene
U197	..... 106 - 51 - 4	..... p-Benzoquinone
U023	..... 98 - 07 - 7	..... Benzotrichloride (C,R,T)
U085	..... 1464 - 53 - 5	..... 2,2¼-Bioxirane
U021	..... 92 - 87 - 5	..... [1,1'-Biphenyl]-4,4'-diamine
U073	..... 91 - 94 - 1	..... [1,1 P-Biphenyl]-4,4 P-diamine, 3,3 P-dichloro-
U091	..... 119 - 90 - 4	..... [1,1 P-Biphenyl]-4,4 P-diamine, 3,3 P-dimethoxy-
U095	..... 119 - 93 - 7	..... [1,1 P-Biphenyl]-4,4 P-diamine, 3,3 P-dimethyl-
U225	..... 75 - 25 - 2	..... Bromoform
U030	..... 101 - 55 - 3	..... 4-Bromophenyl phenyl ether
U128	..... 87 - 68 - 3	..... 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	..... 924 - 16 - 3	..... 1-Butanamine, N-butyl-N-nitroso-
U031	..... 71 - 36 - 3	..... 1-Butanol (I)
U159	..... 78 - 93 - 3	..... 2-Butanone (I,T)
U160	..... 1338 - 23 - 4	..... 2-Butanone, peroxide (R,T)
U053	..... 4170 - 30 - 3	..... 2-Butenal
U074	..... 764 - 41 - 0	..... 2-Butene, 1,4-dichloro- (I,T)
U143	..... 303 - 34 - 4	..... 2-Butenoic acid, 2-methyl-, 7-[[[2,3-dihydroxy- 2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]- 2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	..... 71 - 36 - 3	..... n-Butyl alcohol (I)
U136	..... 75 - 60 - 5	..... Cacodylic acid
U032	..... 13765 - 19 - 0	..... Calcium chromate
U238	..... 51 - 79 - 6	..... Carbamic acid, ethyl ester
U178	..... 615 - 53 - 2	..... Carbamic acid, methylnitroso-, ethyl ester
U097	..... 79 - 44 - 7	..... Carbamic chloride, dimethyl-
U114	..... 111 - 54 - 6	..... Carbamodithioic acid, 1,2-ethanediyldis-, salts & esters
U062	..... 2303 - 16 - 4	..... Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U215	..... 6533 - 73 - 9	..... Carbonic acid, dithallium(1+) salt
U033	..... 353 - 50 - 4	..... Carbonic difluoride
U156	..... 79 - 22 - 1	..... Carbonochloridic acid, methyl ester (I,T)
U033	..... 353 - 50 - 4	..... Carbon oxyfluoride (R,T)
U211	..... 56 - 23 - 5	..... Carbon tetrachloride
U034	..... 75 - 87 - 6	..... Chloral
U035	..... 305 - 03 - 3	..... Chlorambucil
U036	..... 57 - 74 - 9	..... Chlordane, alpha & gamma isomers
U026	..... 494 - 03 - 1	..... Chlornaphazin
U037	..... 108 - 90 - 7	..... Chlorobenzene
U038	..... 510 - 15 - 6	..... Chlorobenzilate
U039	..... 59 - 50 - 7	..... p-Chloro-m-cresol

U042	..... 110 - 75 - 8	..... 2-Chloroethyl vinyl ether
U044	..... 67 - 66 - 3	..... Chloroform
U046	..... 107 - 30 - 2	..... Chloromethyl methyl ether
U047	..... 91 - 58 - 7	..... beta-Chloronaphthalene
U048	..... 95 - 57 - 8	..... o-Chlorophenol
U049	..... 3165 - 93 - 3	..... 4-Chloro-o-toluidine, hydrochloride
U032	..... 13765 - 19 - 0	..... Chromic acid H ₂ CrO ₄ , calcium salt
U050	..... 218 - 01 - 9	..... Chrysene
U051	.....	..... Creosote
U052	..... 1319 - 77 - 3	..... Cresol (Cresylic acid)
U053	..... 4170 - 30 - 3	..... Crotonaldehyde
U055	..... 98 - 82 - 8	..... Cumene (I)
U246	..... 506 - 68 - 3	..... Cyanogen bromide (CN)Br
U197	..... 106 - 51 - 4	..... 2,5-Cyclohexadiene-1,4-dione
U056	..... 110 - 82 - 7	..... Cyclohexane (I)
U129	..... 58 - 89 - 9	..... Cyclohexane, 1,2,3,4,5,6-hexachloro-, 1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	..... 108 - 94 - 1	..... Cyclohexanone (I)
U130	..... 77 - 47 - 4	..... 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	..... 50 - 18 - 0	..... Cyclophosphamide
U240	..... 94 - 75 - 7	..... 2,4-D, salts & esters
U059	..... 20830 - 81 - 3	..... Daunomycin
U060	..... 72 - 54 - 8	..... DDD
U061	..... 50 - 29 - 3	..... DDT
U062	..... 2303 - 16 - 4	..... Diallate
U063	..... 53 - 70 - 3	..... Dibenz[a,h]anthracene
U064	..... 189 - 55 - 9	..... Dibenzo[a,i]pyrene
U066	..... 96 - 12 - 8	..... 1,2-Dibromo-3-chloropropane
U069	..... 84 - 74 - 2	..... Dibutyl phthalate
U070	..... 95 - 50 - 1	..... o-Dichlorobenzene
U071	..... 541 - 73 - 1	..... m-Dichlorobenzene
U072	..... 106 - 46 - 7	..... p-Dichlorobenzene
U073	..... 91 - 94 - 1	..... 3,3 P-Dichlorobenzidine
U074	..... 764 - 41 - 0	..... 1,4-Dichloro-2-butene (I,T)
U075	..... 75 - 71 - 8	..... Dichlorodifluoromethane
U078	..... 75 - 35 - 4	..... 1,1-Dichloroethylene
U079	..... 156 - 60 - 5	..... 1,2-Dichloroethylene
U025	..... 111 - 44 - 4	..... Dichloroethyl ether
U027	..... 108 - 60 - 1	..... Dichloroisopropyl ether
U024	..... 111 - 91 - 1	..... Dichloromethoxy ethane
U081	..... 120 - 83 - 2	..... 2,4-Dichlorophenol
U082	..... 87 - 65 - 0	..... 2,6-Dichlorophenol
U084	..... 542 - 75 - 6	..... 1,3-Dichloropropene
U085	..... 1464 - 53 - 5	..... 1,2:3,4-Diepoxybutane (I,T)
U108	..... 123 - 91 - 1	..... 1,4-Diethyleneoxide
U028	..... 117 - 81 - 7	..... Diethylhexyl phthalate



U086	..... 1615 - 80 - 1	..... N,N P-Diethylhydrazine
U087	..... 3288 - 58 - 2	..... O,O-Diethyl S-methyl dithiophosphate
U088	..... 84 - 66 - 2	..... Diethyl phthalate
U089	..... 56 - 53 - 1	..... Diethylstilbesterol
U090	..... 94 - 58 - 6	..... Dihydrosafrole
U091	..... 119 - 90 - 4	..... 3,3 P-Dimethoxybenzidine
U092	..... 124 - 40 - 3	..... Dimethylamine (I)
U093	..... 60 - 11 - 7	..... p-Dimethylaminoazobenzene
U094	..... 57 - 97 - 6	..... 7,12-Dimethylbenz[a]anthracene
U095	..... 119 - 93 - 7	..... 3,3 P-Dimethylbenzidine
U096	..... 80 - 15 - 9	..... alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	..... 79 - 44 - 7	..... Dimethylcarbamoyl chloride
U098	..... 57 - 14 - 7	..... 1,1-Dimethylhydrazine
U099	..... 540 - 73 - 8	..... 1,2-Dimethylhydrazine
U101	..... 105 - 67 - 9	..... 2,4-Dimethylphenol
U102	..... 131 - 11 - 3	..... Dimethyl phthalate
U103	..... 77 - 78 - 1	..... Dimethyl sulfate
U105	..... 121 - 14 - 2	..... 2,4-Dinitrotoluene
U106	..... 606 - 20 - 2	..... 2,6-Dinitrotoluene
U107	..... 117 - 84 - 0	..... Di-n-octyl phthalate
U108	..... 123 - 91 - 1	..... 1,4-Dioxane
U109	..... 122 - 66 - 7	..... 1,2-Diphenylhydrazine
U110	..... 142 - 84 - 7	..... Dipropylamine (I)
U111	..... 621 - 64 - 7	..... Di-n-propylnitrosamine
U041	..... 106 - 89 - 8	..... Epichlorohydrin
U001	..... 75 - 07 - 0	..... Ethanal (I)
U174	..... 55 - 18 - 5	..... Ethanamine, N-ethyl-N-nitroso-
U155	..... 91 - 80 - 5	..... 1,2-Ethanediamine, N,N-dimethyl-N P-2-pyridinyl-N P-(2-thienylmethyl)-
U067	..... 106 - 93 - 4	..... Ethane, 1,2-dibromo-
U076	..... 75 - 34 - 3	..... Ethane, 1,1-dichloro-
U077	..... 107 - 06 - 2	..... Ethane, 1,2-dichloro-
U131	..... 67 - 72 - 1	..... Ethane, hexachloro-
U024	..... 111 - 91 - 1	..... Ethane, 1,1 P-[methylenebis(oxy)] bis[2-chloro-
U117	..... 60 - 29 - 7	..... Ethane, 1,1 P-oxybis-(I)
U025	..... 111 - 44 - 4	..... Ethane, 1,1 P-oxybis[2-chloro-
U184	..... 76 - 01 - 7	..... Ethane, pentachloro-
U208	..... 630 - 20 - 6	..... Ethane, 1,1,1,2-tetrachloro-
U209	..... 79 - 34 - 5	..... Ethane, 1,1,2,2-tetrachloro-
U218	..... 62 - 55 - 5	..... Ethanethioamide
U226	..... 71 - 55 - 6	..... Ethane, 1,1,1-trichloro-
U227	..... 79 - 00 - 5	..... Ethane, 1,1,2-trichloro-
U359	..... 110 - 80 - 5	..... Ethanol, 2-ethoxy-
U173	..... 1116 - 54 - 7	..... Ethanol, 2,2 P-(nitrosoimino)bis-
U004	..... 98 - 86 - 2	..... Ethanone, 1-phenyl-



U043	..... 75 - 01 - 4	..... Ethene, chloro-
U042	..... 110 - 75 - 8	..... Ethene, (2-chloroethoxy)-
U078	..... 75 - 35 - 4	..... Ethene, 1,1-dichloro-
U079	..... 156 - 60 - 5	..... Ethene, 1,2-dichloro-, (E)-
U210	..... 127 - 18 - 4	..... Ethene, tetrachloro-
U228	..... 79 - 01 - 6	..... Ethene, trichloro-
U112	..... 141 - 78 - 6	..... Ethyl acetate (I)
U113	..... 140 - 88 - 5	..... Ethyl acrylate (I)
U238	..... 51 - 79 - 6	..... Ethyl carbamate (urethane)
U117	..... 60 - 29 - 7	..... Ethyl ether (I)
U114	..... 111 - 54 - 6	..... Ethylenebisdithiocarbamic acid, salts & esters
U067	..... 106 - 93 - 4	..... Ethylene dibromide
U077	..... 107 - 06 - 2	..... Ethylene dichloride
U359	..... 110 - 80 - 5	..... Ethylene glycol monoethyl ether
U115	..... 75 - 21 - 8	..... Ethylene oxide (I,T)
U116	..... 96 - 45 - 7	..... Ethylenethiourea
U076	..... 75 - 34 - 3	..... Ethylidene dichloride
U118	..... 97 - 63 - 2	..... Ethyl methacrylate
U119	..... 62 - 50 - 0	..... Ethyl methanesulfonate
U120	..... 206 - 44 - 0	..... Fluoranthene
U122	..... 50 - 00 - 0	..... Formaldehyde
U123	..... 64 - 18 - 6	..... Formic acid (C,T)
U124	..... 110 - 00 - 9	..... Furan (I)
U125	..... 98 - 01 - 1	..... 2-Furancarboxaldehyde (I)
U147	..... 108 - 31 - 6	..... 2,5-Furandione
U213	..... 109 - 99 - 9	..... Furan, tetrahydro-(I)
U125	..... 98 - 01 - 1	..... Furfural (I)
U124	..... 110 - 00 - 9	..... Furfuran (I)
U206	..... 18883 - 66 - 4	..... Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	..... 18883 - 66 - 4	..... D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]-
U126	..... 765 - 34 - 4	..... Glycidylaldehyde
U163	..... 70 - 25 - 7	..... Guanidine, N-methyl-N P-nitro-N-nitroso-
U127	..... 118 - 74 - 1	..... Hexachlorobenzene
U128	..... 87 - 68 - 3	..... Hexachlorobutadiene
U130	..... 77 - 47 - 4	..... Hexachlorocyclopentadiene
U131	..... 67 - 72 - 1	..... Hexachloroethane
U132	..... 70 - 30 - 4	..... Hexachlorophene
U243	..... 1888 - 71 - 7	..... Hexachloropropene
U133	..... 302 - 01 - 2	..... Hydrazine (R,T)
U086	..... 1615 - 80 - 1	..... Hydrazine, 1,2-diethyl-
U098	..... 57 - 14 - 7	..... Hydrazine, 1,1-dimethyl-
U099	..... 540 - 73 - 8	..... Hydrazine, 1,2-dimethyl-
U109	..... 122 - 66 - 7	..... Hydrazine, 1,2-diphenyl-
U134	..... 7664 - 39 - 3	..... Hydrofluoric acid (C,T)
U134	..... 7664 - 39 - 3	..... Hydrogen fluoride (C,T)
U135	..... 7783 - 06 - 4	..... Hydrogen sulfide



U135	..... 7783 - 06 - 4	..... Hydrogen sulfide H ₂ S
U096	..... 80 - 15 - 9	..... Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	..... 96 - 45 - 7	..... 2-Imidazolidinethione
U137	..... 193 - 39 - 5	..... Indeno[1,2,3-cd]pyrene
U190	..... 85 - 44 - 9	..... 1,3-Isobenzofurandione
U140	..... 78 - 83 - 1	..... Isobutyl alcohol (I,T)
U141	..... 120 - 58 - 1	..... Isosafrole
U142	..... 143 - 50 - 0	..... Kepone
U143	..... 303 - 34 - 4	..... Lasiocarpine
U144	..... 301 - 04 - 2	..... Lead acetate
U146	..... 1335 - 32 - 6	..... Lead, bis(acetato-O)tetrahydroxytri-
U145	..... 7446 - 27 - 7	..... Lead phosphate
U146	..... 1335 - 32 - 6	..... Lead subacetate
U129	..... 58 - 89 - 9	..... Lindane
U163	..... 70 - 25 - 7	..... MNNG
U147	..... 108 - 31 - 6	..... Maleic anhydride
U148	..... 123 - 33 - 1	..... Maleic hydrazide
U149	..... 109 - 77 - 3	..... Malononitrile
U150	..... 148 - 82 - 3	..... Melphalan
U151	..... 7439 - 97 - 6	..... Mercury
U152	..... 126 - 98 - 7	..... Methacrylonitrile (I, T)
U092	..... 124 - 40 - 3	..... Methanamine, N-methyl- (I)
U029	..... 74 - 83 - 9	..... Methane, bromo-
U045	..... 74 - 87 - 3	..... Methane, chloro- (I, T)
U046	..... 107 - 30 - 2	..... Methane, chloromethoxy-
U068	..... 74 - 95 - 3	..... Methane, dibromo-
U080	..... 75 - 09 - 2	..... Methane, dichloro-
U075	..... 75 - 71 - 8	..... Methane, dichlorodifluoro-
U138	..... 74 - 88 - 4	..... Methane, iodo-
U119	..... 62 - 50 - 0	..... Methanesulfonic acid, ethyl ester
U211	..... 56 - 23 - 5	..... Methane, tetrachloro-
U153	..... 74 - 93 - 1	..... Methanethiol (I, T)
U225	..... 75 - 25 - 2	..... Methane, tribromo-
U044	..... 67 - 66 - 3	..... Methane, trichloro-
U121	..... 75 - 69 - 4	..... Methane, trichlorofluoro-
U036	..... 57 - 74 - 9	..... 4,7-Methano-1H-indene,1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	..... 67 - 56 - 1	..... Methanol (I)
U155	..... 91 - 80 - 5	..... Methapyrilene
U142	..... 143 - 50 - 0	..... 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	..... 72 - 43 - 5	..... Methoxychlor
U154	..... 67 - 56 - 1	..... Methyl alcohol (I)
U029	..... 74 - 83 - 9	..... Methyl bromide
U186	..... 504 - 60 - 9	..... 1-Methylbutadiene (I)
U045	..... 74 - 87 - 3	..... Methyl chloride (I,T)



U156	79 - 22 - 1	Methyl chlorocarbonate (I,T)
U226	71 - 55 - 6	Methyl chloroform
U157	56 - 49 - 5	3-Methylcholanthrene
U158	101 - 14 - 4	4,4 P-Methylenebis(2-chloroaniline)
U068	74 - 95 - 3	Methylene bromide
U080	75 - 09 - 2	Methylene chloride
U159	78 - 93 - 3	Methyl ethyl ketone (MEK) (I,T)
U160	1338 - 23 - 4	Methyl ethyl ketone peroxide (R,T)
U138	74 - 88 - 4	Methyl iodide
U161	108 - 10 - 1	Methyl isobutyl ketone (I)
U162	80 - 62 - 6	Methyl methacrylate (I,T)
U161	108 - 10 - 1	4-Methyl-2-pentanone (I)
U164	56 - 04 - 2	Methylthiouracil
U010	50 - 07 - 7	Mitomycin C
U059	20830 - 81 - 3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)- -alpha-L-lyxo-hexopyranosyl)oxy] -7,8,9,10-tetrahydro-6,8,11- trihydroxy-1-methoxy-, (8S-cis)-
U167	134 - 32 - 7	1-Naphthalenamine
U168	91 - 59 - 8	2-Naphthalenamine
U026	494 - 03 - 1	Naphthalenamine, N,N P-bis(2-chloroethyl)-
U165	91 - 20 - 3	Naphthalene
U047	91 - 58 - 7	Naphthalene, 2-chloro-
U166	130 - 15 - 4	1,4-Naphthalenedione
U236	72 - 57 - 1	2,7-Naphthalenedisulfonic acid, 3,3 P-[(3,3 P- dimethyl[1,1 P-biphenyl]-4,4 P-diyl) bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U166	130 - 15 - 4	1,4-Naphthoquinone
U167	134 - 32 - 7	alpha-Naphthylamine
U168	91 - 59 - 8	beta-Naphthylamine
U217	10102 - 45 - 1	Nitric acid, thallium(1+) salt
U169	98 - 95 - 3	Nitrobenzene (I,T)
U170	100 - 02 - 7	p-Nitrophenol
U171	79 - 46 - 9	2-Nitropropane (I,T)
U172	924 - 16 - 3	N-Nitrosodi-n-butylamine
U173	1116 - 54 - 7	N-Nitrosodiethanolamine
U174	55 - 18 - 5	N-Nitrosodiethylamine
U176	759 - 73 - 9	N-Nitroso-N-ethylurea
U177	684 - 93 - 5	N-Nitroso-N-methylurea
U178	615 - 53 - 2	N-Nitroso-N-methylurethane
U179	100 - 75 - 4	N-Nitrosopiperidine
U180	930 - 55 - 2	N-Nitrosopyrrolidine
U181	99 - 55 - 8	5-Nitro-o-toluidine
U193	1120 - 71 - 4	1,2-Oxathiolane, 2,2-dioxide
U058	50 - 18 - 0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75 - 21 - 8	Oxirane (I,T)



U126	765 - 34 - 4	Oxiranecarboxyaldehyde
U041	106 - 89 - 8	Oxirane, (chloromethyl)-
U182	123 - 63 - 7	Paraldehyde
U183	608 - 93 - 5	Pentachlorobenzene
U184	76 - 01 - 7	Pentachloroethane
U185	82 - 68 - 8	Pentachloronitrobenzene (PCNB)
See F027.	87 - 86 - 5	Pentachlorophenol
U161	108 - 10 - 1	Pentanol, 4-methyl-
U186	504 - 60 - 9	1,3-Pentadiene (I)
U187	62 - 44 - 2	Phenacetin
U188	108 - 95 - 2	Phenol
U048	95 - 57 - 8	Phenol, 2-chloro-
U039	59 - 50 - 7	Phenol, 4-chloro-3-methyl-
U081	120 - 83 - 2	Phenol, 2,4-dichloro-
U082	87 - 65 - 0	Phenol, 2,6-dichloro-
U089	56 - 53 - 1	Phenol, 4,4 P-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105 - 67 - 9	Phenol, 2,4-dimethyl-
U052	1319 - 77 - 3	Phenol, methyl-
U132	70 - 30 - 4	Phenol, 2,2 P-methylenebis[3,4,6-trichloro-
U170	100 - 02 - 7	Phenol, 4-nitro-
See F027.	87 - 86 - 5	Phenol, pentachloro-
See F027.	58 - 90 - 2	Phenol, 2,3,4,6-tetrachloro-
See F027.	95 - 95 - 4	Phenol, 2,4,5-trichloro-
See F027.	88 - 06 - 2	Phenol, 2,4,6-trichloro-
U150	148 - 82 - 3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446 - 27 - 7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288 - 58 - 2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314 - 80 - 3	Phosphorus sulfide (R)
U190	85 - 44 - 9	Phthalic anhydride
U191	109 - 06 - 8	2-Picoline
U179	100 - 75 - 4	Piperidine, 1-nitroso-
U192	23950 - 58 - 5	Pronamide
U194	107 - 10 - 8	1-Propanamine (I,T)
U111	621 - 64 - 7	1-Propanamine, N-nitroso-N-propyl-
U110	142 - 84 - 7	1-Propanamine, N-propyl- (I)
U066	96 - 12 - 8	Propane, 1,2-dibromo-3-chloro-
U083	78 - 87 - 5	Propane, 1,2-dichloro-
U149	109 - 77 - 3	Propanedinitrile
U171	79 - 46 - 9	Propane, 2-nitro- (I,T)
U027	108 - 60 - 1	Propane, 2,2 P-oxybis[2-chloro-
U193	1120 - 71 - 4	1,3-Propane sultone
See F027.	93 - 72 - 1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126 - 72 - 7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78 - 83 - 1	1-Propanol, 2-methyl- (I,T)
U002	67 - 64 - 1	2-Propanone (I)
U007	79 - 06 - 1	2-Propenamide



U084	..... 542 - 75 - 6	..... 1-Propene, 1,3-dichloro-
U243	..... 1888 - 71 - 7	..... 1-Propene, 1,1,2,3,3,3-hexachloro-
U009	..... 107 - 13 - 1	..... 2-Propenenitrile
U152	..... 126 - 98 - 7	..... 2-Propenenitrile, 2-methyl- (I,T)
U008	..... 79 - 10 - 7	..... 2-Propenoic acid (I)
U113	..... 140 - 88 - 5	..... 2-Propenoic acid, ethyl ester (I)
U118	..... 97 - 63 - 2	..... 2-Propenoic acid, 2-methyl-, ethyl ester
U162	..... 80 - 62 - 6	..... 2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U194	..... 107 - 10 - 8	..... n-Propylamine (I,T)
U083	..... 78 - 87 - 5	..... Propylene dichloride
U148	..... 123 - 33 - 1	..... 3,6-Pyridazinedione, 1,2-dihydro-
U196	..... 110 - 86 - 1	..... Pyridine
U191	..... 109 - 06 - 8	..... Pyridine, 2-methyl-
U237	..... 66 - 75 - 1	..... 2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	..... 56 - 04 - 2	..... 4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	..... 930 - 55 - 2	..... Pyrrolidine, 1-nitroso-
U200	..... 50 - 55 - 5	..... Reserpine
U201	..... 108 - 46 - 3	..... Resorcinol
U202	..... 81 - 07 - 2	..... Saccharin, & salts
U203	..... 94 - 59 - 7	..... Safrole
U204	..... 7783 - 00 - 8	..... Selenious acid
U204	..... 7783 - 00 - 8	..... Selenium dioxide
U205	..... 7488 - 56 - 4	..... Selenium sulfide
U205	..... 7488 - 56 - 4	..... Selenium sulfide SeS ₂ (R,T)
U015	..... 115 - 02 - 6	..... L-Serine, diazoacetate (ester)
See F027.	..... 93 - 72 - 1	..... Silvex (2,4,5-TP)
U206	..... 18883 - 66 - 4	..... Streptozotocin
U103	..... 77 - 78 - 1	..... Sulfuric acid, dimethyl ester
U189	..... 1314 - 80 - 3	..... Sulfur phosphide (R)
See F027.	..... 93 - 76 - 5	..... 2,4,5-T
U207	..... 95 - 94 - 3	..... 1,2,4,5-Tetrachlorobenzene
U208	..... 630 - 20 - 6	..... 1,1,1,2-Tetrachloroethane
U209	..... 79 - 34 - 5	..... 1,1,2,2-Tetrachloroethane
U210	..... 127 - 18 - 4	..... Tetrachloroethylene
See F027.	..... 58 - 90 - 2	..... 2,3,4,6-Tetrachlorophenol
U213	..... 109 - 99 - 9	..... Tetrahydrofuran (I)
U214	..... 563 - 68 - 8	..... Thallium(I) acetate
U215	..... 6533 - 73 - 9	..... Thallium(I) carbonate
U216	..... 7791 - 12 - 0	..... Thallium(I) chloride
U216	..... 7791 - 12 - 0	..... Thallium chloride TlCl
U217	..... 10102 - 45 - 1	..... Thallium(I) nitrate
U218	..... 62 - 55 - 5	..... Thioacetamide
U153	..... 74 - 93 - 1	..... Thiomethanol (I,T)
U244	..... 137 - 26 - 8	..... Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl-
U219	..... 62 - 56 - 6	..... Thiourea
U244	..... 137 - 26 - 8	..... Thiram



U220	..... 108 - 88 - 3	..... Toluene
U221	..... 25376 - 45 - 8	..... Toluenediamine
U223	..... 26471 - 62 - 5	..... Toluene diisocyanate (R,T)
U328	..... 95 - 53 - 4	..... o-Toluidine
U353	..... 106 - 49 - 0	..... p-Toluidine
U222	..... 636 - 21 - 5	..... o-Toluidine hydrochloride
U011	..... 61 - 82 - 5	..... 1H-1,2,4-Triazol-3-amine
U227	..... 79 - 00 - 5	..... 1,1,2-Trichloroethane
U228	..... 79 - 01 - 6	..... Trichloroethylene
U121	..... 75 - 69 - 4	..... Trichloromonofluoromethane
See F027.	..... 95 - 95 - 4	..... 2,4,5-Trichlorophenol
See F027.	..... 88 - 06 - 2	..... 2,4,6-Trichlorophenol
U234	..... 99 - 35 - 4	..... 1,3,5-Trinitrobenzene (R,T)
U182	..... 123 - 63 - 7	..... 1,3,5-Trioxane, 2,4,6-trimethyl-
U235	..... 126 - 72 - 7	..... Tris(2,3-dibromopropyl) phosphate
U236	..... 72 - 57 - 1	..... Trypan blue
U237	..... 66 - 75 - 1	..... Uracil mustard
U176	..... 759 - 73 - 9	..... Urea, N-ethyl-N-nitroso-
U177	..... 684 - 93 - 5	..... Urea, N-methyl-N-nitroso-
U043	..... 75 - 01 - 4	..... Vinyl chloride
U248	..... 81 - 81 - 2	..... Warfarin, & salts, when present at concentrations of 0.3% or less
U239	..... 1330 - 20 - 7	..... Xylene (I)
U200	..... 50 - 55 - 5	..... Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	..... 1314 - 84 - 7	..... Zinc phosphide Zn3P2, when present at concentrations of 10% or less

* Hazard Codes

- I Ignitable Waste
- C Corrosive Waste
- R Reactive Waste
- T Toxic Waste
- E Toxicity Characteristic Waste
- H Acute Hazardous Waste

